



CMT

**the PBS archive add on
for Material Master Data,
Batches
and BOMs**

**Manual Part C
– User Manual –**

Compatible with
- SAP ERP 2004

SAP[®] Certified
Powered by SAP NetWeaver[®]

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Introduction to the PBS ILM Concept

Information Lifecycle Management

Information Lifecycle Management (ILM) means the administration of information related to the time when it is used, taking into account its total costs and compliance. A conclusive, efficient ILM concept must, as a result, control data growth, manage retention rules, and also ensure compliant data storage. Furthermore, an easy access to archived data is decisive and, for example, its transfer during internal and external audits.

PBS ILM Concept

PBS software provides existing SAP customers extensive solutions to put into practice the requirements that were described above for a stringent and successful ILM concept. PBS is considered as an expert for complex, integrated data accesses to archived and database data and meanwhile, also to data that is located on decommissioned SAP systems. In addition to classical SAP data archiving, SAP BI-specific nearline storage is also supported.

PBS archive add ons[®]

PBS archive add ons always rely on SAP archiving having been carried out successfully. This is the basis for a permanently high-performing SAP system. In principle, you can indeed retain posted documents in the SAP database for a very long time due to a large database capacity. Depending on the document volume, this may result, however, in massive performance losses and, sooner or later, heavily increasing operation costs. The daily backup becomes difficult for large data stocks, for example.

A convenient display and evaluation of archived transaction data – as the SAP user is used to for database data – can often only be carried out in a very restricted manner using SAP standard means depending on the application module. This is particularly the case for large archive data stocks. The PBS archive add ons can be used here. They can be provided for nearly all SAP modules and release levels, and start with a "C" (for *Complete*) in their description. For example, PBS archive add on CCOPA for the SAP module COPA.

Using the PBS archive add ons you can quickly and easily access your archived data even after data archiving during your day-to-day business. The unrestricted data access is realized by an intelligent indexing concept. It extends the SAP archive infrastructure components and integrates itself optimally with SAP archiving. Archive data that has been indexed can still be provided after a release upgrade immediately, without restrictions, and without migration effort. The PBS archive index is stored in sequential files of the SAP file system in the same way as the SAP archive data. Afterwards, you can access the archive data online via the familiar transactions. The SAP user can display the data from the SAP database and the archive data simultaneously via the PBS archive add on index. For the user, it seems as though the archived data is still in the SAP database.

The deep integration of the PBS transactions also enables direct navigation to subsequent and previous documents both within the indexed SAP module as well as to linked documents from other SAP modules. This applies not only for resident but also without restrictions for archived data. The benefit for the user increases the more PBS archive add ons are used.

The potential benefits of the ILM concept raises substantially if you take into account the savings that result from the SAP mirror systems. There are usually at least two of them meaning that the saved disk storage can be tripled by performing data archiving. Thus, time is saved for the data backup.

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1. Introduction

The **PBS archive add ons** are constructed in modular form and cover the application modules FI, SD, MM, CO etc. with a special program package for exactly this application. You can easily see from the name which *PBS archive add on* belongs to which SAP module: CFI, CSD, CMM, CCO etc. All *PBS archive add ons* have in common that they can be easily installed in the SAP R/3 system via the SAP transport utilities "tp" and "SAINT". For installation details of the *PBS archive add ons* please see the specific installation manual (manual part A).

This manual on the display transaction and application programs was written to support you when using the *PBS archive add on CMT*. Please see the administration manual (part B) regarding construction and administration of the *PBS archive add on CMT*.

The modular user manual of each *PBS archive add on* is composed of partial manuals:

- Part A: Installation
- Part B: Administration, Archive Construction and Maintenance
- Part C: Application Programs / Transactions
- Part D: Migration Support R/2 => R/3 (if available)

There are additional manuals for the PBS utilities: Conversion Tool, Archive Browser, Translation Tool.

Should you have questions regarding the installation of the *PBS archive add ons* or if you have problems when installing the software please call directly the **Service Hotline of PBS Software GmbH**:

Phone: +49 - 6251 - 174 110
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Release Compatibility

The **PBS archive add on CMT** discussed in this manual runs with the basis programs of SAP AG, 69190 Walldorf/Baden, **releases ECC 5.0**.

2. Application Functions

2.1. Navigation within the PBS archive add on CMT up to 4.5x

PBS has integrated in its software a start menu which corresponds to the SAP standard menu S000 after having registered in the SAP system. The only difference is the additional function button "*PBS archive add ons*".

In order to use this menu, you only have to enter start menu "YPBS" for users up to 3.1 respectively "/PBS/PBS" for users in all 4.0 releases and /PBS/PBS_45 from release 4.5.

After pressing the button, you get to the main menu transactions for the *PBS archive add ons*, by which you can address the different modules in a comfortable way.

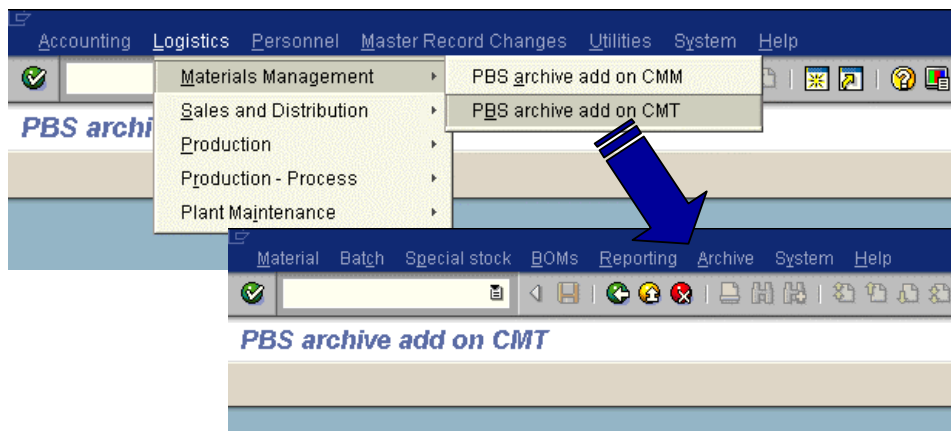


Diagram 1: PBS main menu with branching off to *PBS archive add on CMT*

2.2. Navigation in the PBS archive add on CMT from 4.6

From the Easy Access menu you can easily navigate via the button 'User menu' through the functions of the *PBS archive add on CMT*. This is possible when your system administrator has added the role/activity group to your user profile.

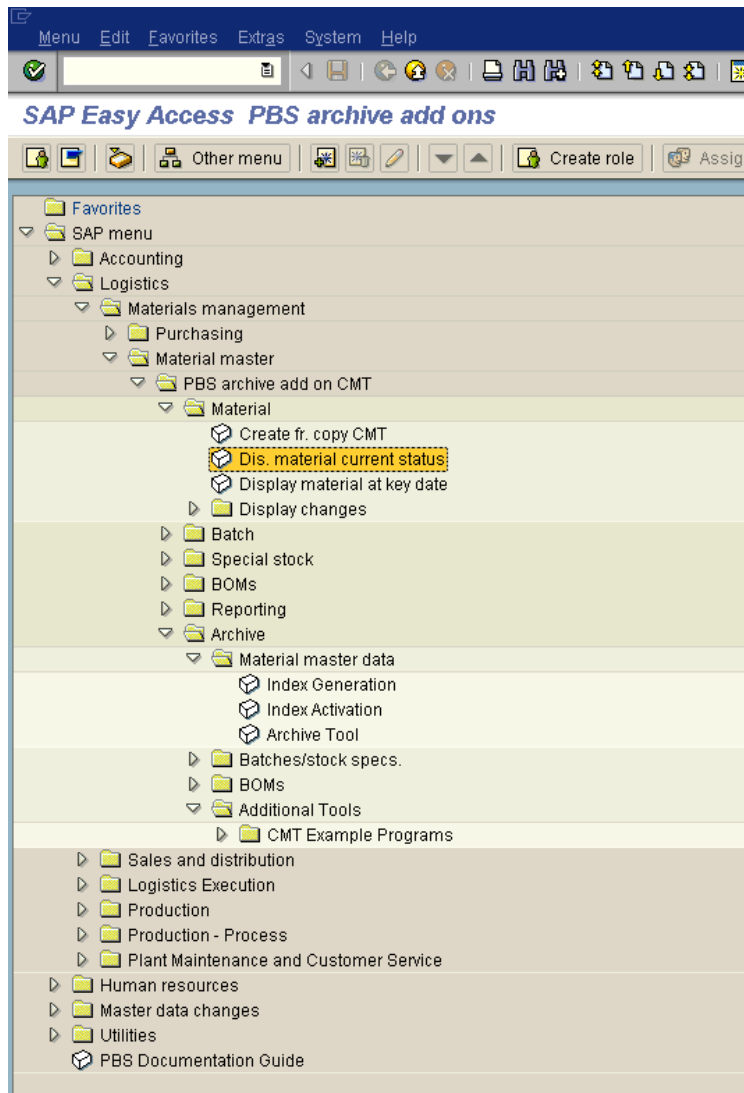


Diagram 2: Navigation via SAP Easy Access

2.3. Transaction Overview

For the *PBS archive add on CMT* the following transactions relevant for the user are provided. The display transactions show documents from the SAP database and from the *PBS archive add on CMT*.

PBS Transaction	SAP-Trans.	Description
/PBS/PBS	-	Main menu <i>PBS archive add ons</i>
/PBS/CMT	-	Menu of the <i>PBS archive add on CMT</i>
/PBS/MM03	MM03	Display material current status
/PBS/MM05	MM04	Display changes for material
/PBS/MM19	MM19	Display material at key date
/PBS/ZMRM	MM01	Create Material from Copy CMT
/PBS/MS3 resp. /PBS/MS3N (from 4.6)	MS3 resp. MS3N	Display batch
/PBS/MS4 resp. /PBS/MS4N (from 4.6)	MS4 resp. MS4N	Display changes batch
/PBS/IB80	IB80	Change documents: equipment BOM
/PBS/IB81	IB81	Change documents: technical location BOM
/PBS/IB03	IB03	Display equipment BOM
/PBS/IB13	IB13	Display techn. location BOM
/PBS/CS03	CS03	Display material BOM
/PBS/CS06	CS06	Material BOM: display BOM group
/PBS/CS09	CS09	Material BOM: display plant allocation
/PBS/CS11	CS11	Expand BOM: multi-level BOM
/PBS/CS12	CS12	Expand BOM: multi-level structure
/PBS/CS13	CS13	Expand BOM: quantity overview
/PBS/CS14	CS14	Comparison of BOMs

Table 1: Transactions of *PBS archive add on CMT* (part 1)

PBS Transaction	SAP-Trans.	Description
/PBS/CS15	CS15	Usage: material
/PBS/CS42	CS42	Material BOM: display allocation config. material
/PBS/CS63	CS63	Display customer order BOM
/PBS/CS80	CS80	Change documents: material BOM
/PBS/CS81	CS81	Change documents: standard BOM
/PBS/CS82	CS82	Change documents: customer order BOM
/PBS/CSC5	CSC5	Usage: class single-level
/PBS/CSD5	CSD5	Usage: document single-level
/PBS/CV13	CV13	Display document BOM
/PBS/CV80	CV80	Change documents: document BOM

Table 2: Transactions of *PBS archive add on CMT* (part 2)

2.4. Display Transactions for Material Master Data

The PBS transactions for the display of material master data are nearly identical to the SAP transactions, therefore, no special training for the user is necessary. In the selection screen the differences between the PBS transactions and the SAP original are the text in the window header and the other menu points which are inactive. In addition, you can use the "Search" button to look for a material short text not only in the residence data but also in the archive data.

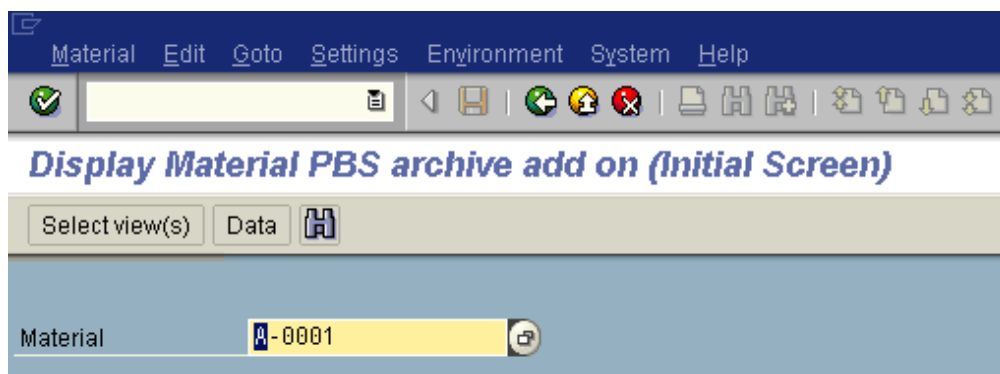


Diagram 3: The screen of the PBS transaction /PBS/MM03

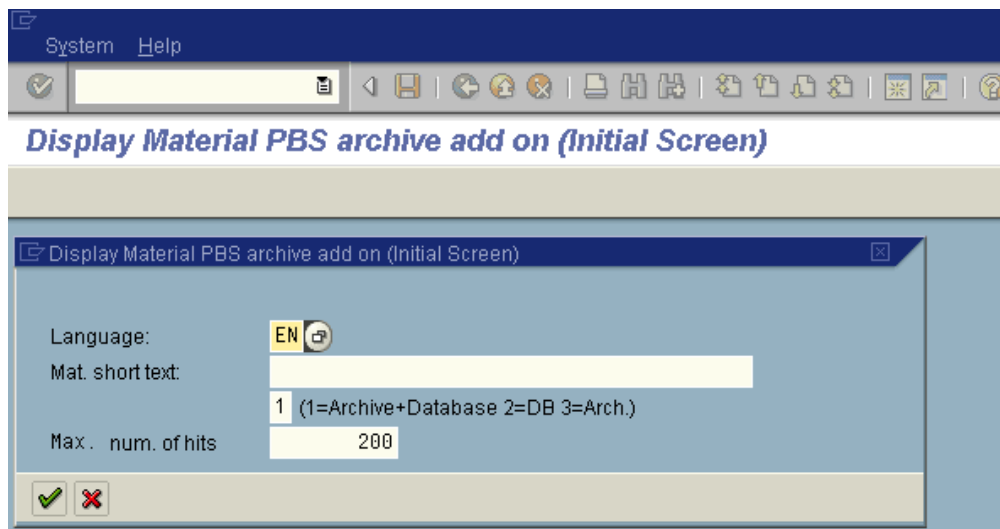


Diagram 4: Search via material short text

In the course of the transactions you can see the difference between the PBS- and the SAP transactions with the help of the archive indicator "***".

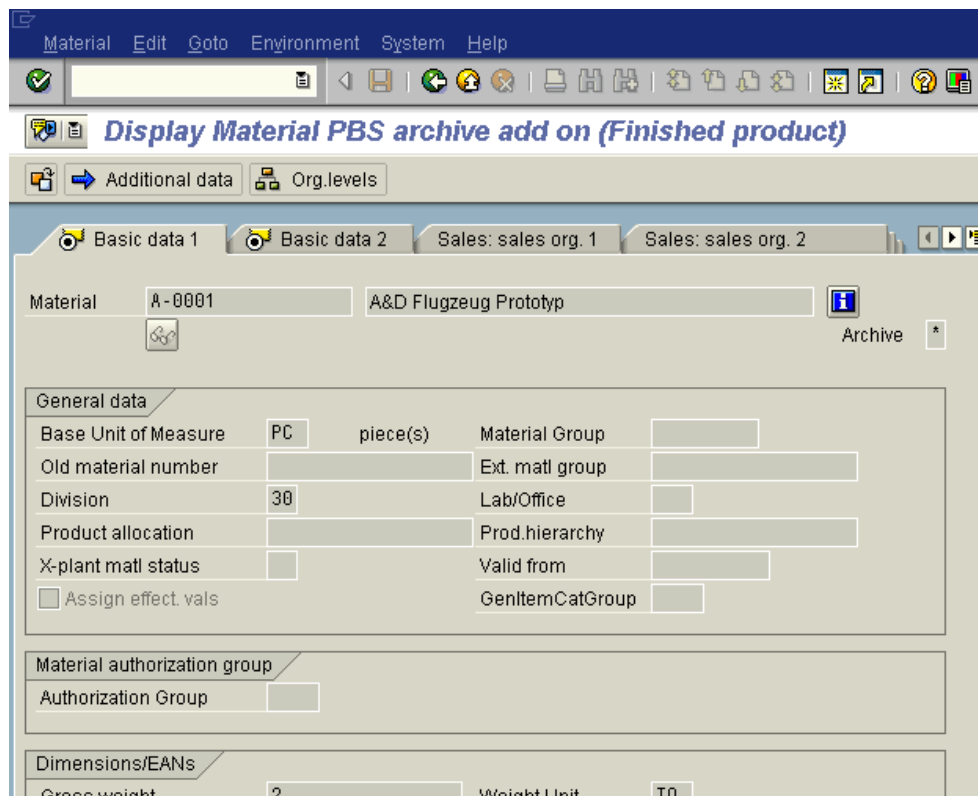


Diagram 5: The symbol "Archive *" marks the difference

Important note: Customer-specific adaptations of the views within the material master display

A user who has corresponding authorizations can adapt individually the views of the material master data using SAP Customizing. This can have the effect that, for example, customer-specific subscreens are displayed in the view (also called "data screen" in Customizing) "Basic data" or a completely new view can be displayed in the SAP standard transaction MM03 that does not exist in the standard views or standard screen sequences (for example "01" or "21"). For this, the system administrator has to create a customer-specific screen sequence starting with the letter "Y" or "Z" (for example "ZB") in which the new subscreens or views are called (transaction "OMT3B"). This is performed with a customer-specific function group (also starting with "Y" or "Z") and respective screens or subscreens.

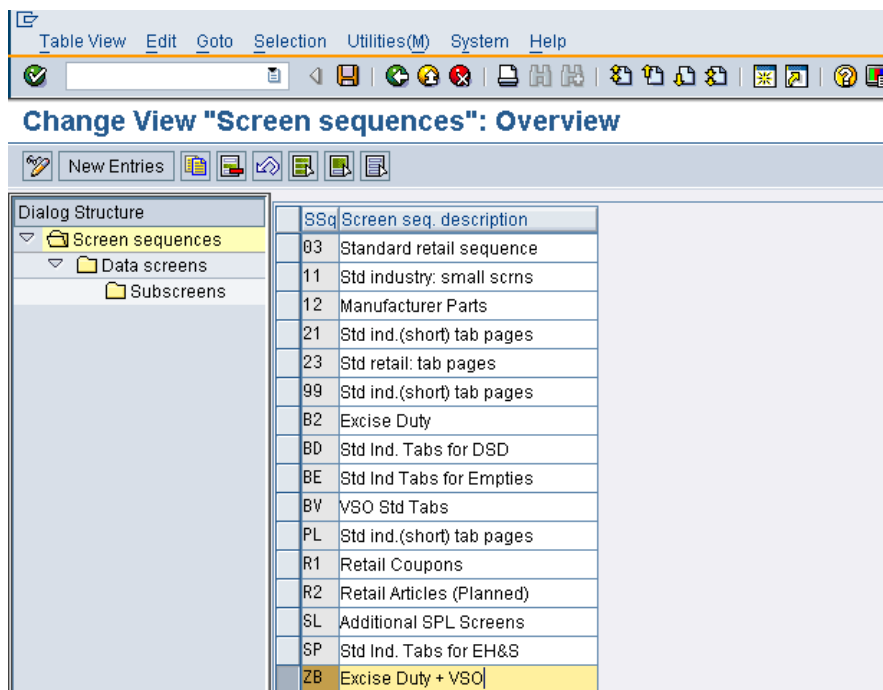


Diagram 6: Customizing material master display (transaction OMT3B)

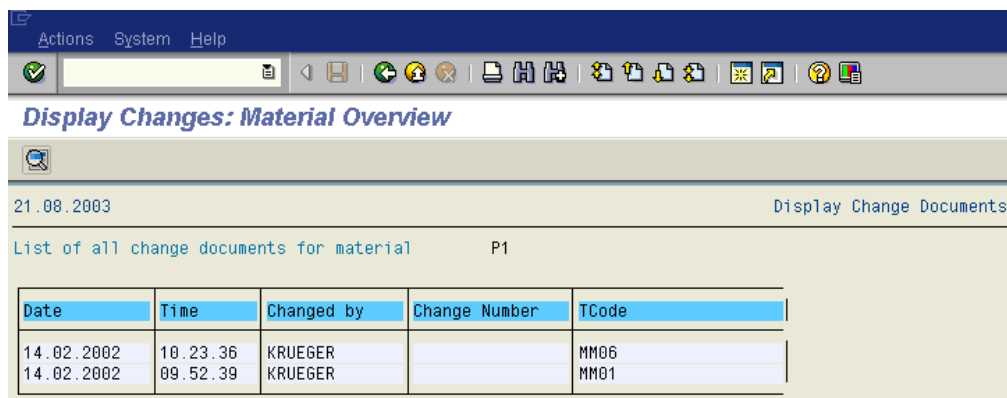
By default, the transaction /PBS/MM03 cannot display these newly added screens. A runtime error would usually occur. To avoid this, the standard screen sequence "21" that exists in each system is called instead of the views of the customer-specific screen sequence "ZB" when the transaction is executed. Thus the runtime error is bypassed.

If it is important to the customer, however, that the archive data is also displayed in the normal individual way, this can only be accomplished with an adaptation in the PBS namespace. Existing customer-specific function groups have to be copied within the PBS namespace and, if required, adapted to the archive data access. This is a deviation from the SAP standard and is provided by PBS as an adaptation at additional cost.

2.5. Material Master Data Changes

The transaction /PBS/MM05 branches off to the display of the material master data changes. With the help of this transaction, the change documents of the material master data are displayed.

The display of the material master data changes of the *PBS archive add on CMT* is connected with the general display functionality of the *PBS archive add on CCU* "Master Data Change Documents". Thus, you can display from *PBS archive add on CMT* also the material master data changes originated from R/2.



Date	Time	Changed by	Change Number	TCode
14.02.2002	10.23.36	KRUEGER		MM06
14.02.2002	09.52.39	KRUEGER		MM01

Diagram 7: Display material master data change doc. R/2 and R/3

2.6. Create Material from Copy CMT

The transaction `/PBS/ZMRM` allows to create a new material master record in the database. As reference, a material master record from the *PBS archive add on CMT* is used. The new master record can be in another plant, warehouse location, sales organization etc. If no further information is entered for the new organization units, the old ones are copied. In case that no old organization units are indicated all lower segments of the material are created.

Create Material as Copy from PBS archive add on CMT

Execute

Material (old/new)	P1	/	
Plant (old/new)		/	
Storage Location (old/new)		/	
Sales Organization (old/new)		/	
Distribution Channel (old/new)		/	
Warehouse Number (old/new)		/	
Storage Type (old/new)		/	
Number Assignment	E		
Create Batch Input			
Selections active/inactive	X		
Laboratory/design office	001		Page format of doc. A4
Delivering plant	3		Account ass. group 4
Product hierarchy	5		Commodity code 22030010
Country of origin	DE		Purchasing group 000
Issue Storage Location	0001		St. Loc. f. ext. pr 0001
Individual and Coll. Reqmts.			Product scheduler 002
Storage conditions	01		MRP controller 010

Diagram 8: Create material with all warehouse locations in new plant

2.7. Display Batches

The transaction `/PBS/MS3` resp. `/PBS/MS3N` (from 4.6) can be used to display batches from the *PBS archive add on CMT* and SAP data base. Also in the following screen you can see the archive asterisk which shows the origin of the data.

PBS: Display Batch: General Data

Material: 200-200 Green Paint
Batch: 200-200-1 archiv *
Plant: 1100 Berlin Storage Location: 0001 AuslieferungLager

Basic data 1 Basic data 2 Classification Material data Current stock

Basic data

Expiration date
Production Date
Available from
Exp. date/SLED D

Batch status
Batch status: ☒ Batch unrestr. ☐ Batch restr.
Last change

Misc.
Next inspection
☐ Batch Deletion Flag
☐ Stock deletion flag

Trading data

Vendor
Ctry of origin
Last goods rec. 14.12.1994
Vendor Batch
Reg. of origin
Exp/imp group

Diagram 9: Display batch from *PBS archive add on CMT*

In the next diagram the change documents of the batch are displayed. These can also be displayed from the *PBS archive add on CMT*.

The screenshot shows the 'PBS: Display Batch: General Data' window. At the top, there is a menu bar with 'Batch', 'Edit', 'Goto', 'Extras', 'Environment', 'System', and 'Help'. Below the menu is a toolbar with various icons. The main area displays the following data:

Material: 200-200 Green Paint
Batch: 200-200-1 archiv *
Plant: 1100 Berlin StorageLocation: 0001 AuslieferLager

Below this, there are tabs: 'Basic data 2', 'Classification', 'Material data', 'Current stock', and 'Changes'. The 'Changes' tab is selected, showing an 'Overview of changes' table.

Date	Time	Name	Transaction	Document ...
14.10.2002	10:26:26	KRUEGER	MSC2N	129287
14.10.2002	10:26:17	KRUEGER	MSC1N	129286
14.10.2002	10:20:23	KRUEGER	MSC2N	129284
14.10.2002	10:20:13	KRUEGER	MSC1N	129283
14.10.2002	10:20:13	KRUEGER	MSC1N	129282

Below the table is a 'Detail information for change' section with a table:

Changed object	Old value	New value
Date of Last Change	00.00.0000	14.10.2002
Deletion Flag for All Data on a Batch at a ...		X

Diagram 10: Display change documents of batch

2.8. Display Bill of Material

The display transaction for bills of material /PBS/CS03 can also display BOMs from SAP database and from PBS archive. In case of recreating the BOM after archiving – or even multiple archiving of the same BOM – an additional selection screen is displayed as shown in the diagram below. From this screen you can branch off by a double click.

Material BOM Edit Goto Extras Environment Settings System Help

Display material BOM PBS archive add on: Initial Screen

Material: 350-100
 Plant: 1100 Berlin
 BOM Usage: 3 Universal
 Alternative BOM:

Effectivity
 Change Number
 Valid From
 Valid To
 Revision Level

Further data
 Required quantity

Select BOM

Several BOM's for this selection criteria available.
 Please select one of them!

MatNo: 350-100 Plant: 1100 WhUsd: 3

A	BOMNo	Text	Alt.	CreDat	CreUser:
*	00000158		1	09.06.1995	KONSTANDIN
	00000483		1	10.07.1998	ASCHE

Diagram 11: Selection screen when BOM number multiple exists

After you have selected a bill of material, the familiar screen is displayed.

Material BOM Edit Goto Extras Environment Settings System Help

Display material BOM PBS archive add on: General Item Overview

Sub-items New entries Header Effectivity

Material 350-100 Paint
Plant 1100 Berlin
Alternative BOM 1 Archive *

Material Document General

Item	ICt	Component	Component description	Quantity	Un	A...	Sls	Valid
0010	L	300-110	Aqua destillata	837	L			09.06
0020	L	300-120	Diaminobenzene	1.163	KG			09.06
0050	L	300-130	Pyridene CDE	765	KG			09.06
0060	L	300-140	Hydrochloric Acid	1.150	KG			09.06
0070	L	300-150	Sodium Bicarbonate	403	KG			09.06
0120	L	300-170	Diamino Toluene	550	KG			09.06
0130	L	300-180	Sodium Nitrate	267	KG			09.06
0140	L	300-190	Silcolapse	12	KG			09.06
0150	L	300-200	Sulfuric Acid	8	KG			09.06
0160	L	300-210	Cyanuric Chloride	837	KG			09.06
0170	L	300-220	Sodium Carbonate	625	KG			09.06

Diagram 12: Display Bill of Material from PBS archive add on CMT

2.9. Transactions with Selection List

A selection list is displayed for transactions /PBS/MM03 (display material master data) and /PBS/CS03 (display material BOM) if several identical material master records or material BOMs exist (also see Diagram 11). This is always the case for example, if a material master record was archived and then a material master record was recreated with the same description in the database. This master record could be archived again after some time and then a new identical material can be created. Thus you could have 2 materials from the archive and one from the database in the selection list. By a double-click the user can select the one he needs, for example using the creation date or the material text.

A	Mtype	Indsect	Text	Ccreate	CreUser	Arch. Date
*	HALB	M	casing 100	20.05.2006	WEHE	26.05.2006
*	HALB	M	casing 100	20.05.2006	WEHE	26.05.2006
	HALB	M	casing 100	26.05.2006	WEHE	00.00.0000

Diagram 13: Selection list Material Master for transaction /PBS/MM03

Then as usual you can go to the view selection in the transaction /PBS/MM03 or to the item overview in the transaction /PBS/CS03.

As already mentioned, currently, this functionality is only provided for the transactions /PBS/MM03 and /PBS/CS03. **To implement such a selection list in other transactions, for example /PBS/CS11 (explode BOM: level by level), /PBS/CS12 (explode BOM: multi-level BOM), /PBS/CS13 (explode BOM: summarized BOM), etc. cannot be realized for the following reasons:**

Due to technical and design-specific peculiarities it is not possible to display the BOM explosion of a requested BOM if identical BOMs (max. once in the database and one time or several times in the archive) exist. On the one hand, in the case of the multiple archiving of an identical BOM, the SAP archiving (ADK files) data has not a special hint which items belong to which BOM. On the other hand, with SAP archiving it is possible to archive some specific items with regard to the validity of their dates and the other items remain in the database. Thus the BOM data or the respective items can be distributed to several SAP ADK files that originate from different SAP archiving runs. There are also other criteria for the SAP standard archiving that make it possible to distribute a BOM to several runs during archiving. These can involve the fields plant, BOM usage and alternative BOM.

A correct display with regard to the BOM and its items is not possible for identical BOMs which exist more than once due to the SAP archiving design and therefore, it also cannot be provided by PBS.

3. ABAP/4 Interfaces

The following chapter describes the methods and auxiliary programs for the access to the data archived with the *PBS archive add on CMT*.

This data can be accessed via the ABAP/4 routines provided by PBS or via a function module.

3.1. Access via ABAP/4 Routines

All important routines required for the access to the archive data are stored in the ABAPs `/PBS/CMTMREAD`, `/PBS/CMTOREAD`, `/PBS/CMTSREAD`. In the following table there are example ABAPs for the usage of the routines listed.

up to Rel. 4.6	from Rel. 4.7	Description
/PBS/CMTM0001	/PBS/CMT_TSRD_MU002	Test access Material master data
/PBS/CMT00001	/PBS/CMT_TSRD_OU002	Test access Batches
/PBS/CMTS0001	/PBS/CMT_TSRD_SU002	Test access 1 BOMs
/PBS/CMTS0002	/PBS/CMT_TSRD_SU003	Test access 2 BOMs

Table 3: Test access routines of *PBS archive add on CMT*

3.2. Access via PBS Function Module

The function module `"/PBS/SELECT_INTO_TABLE"` accesses the *PBS archive add on* and exports the data records of the requested table to an internal table.

The function uses the following interfaces:

Name	Description	Type	Optional	Example
ARCHIV	Name of archive	Parameter		'CMT'
TABNAME	Table name	Parameter		'MARC'
SCHL1_NAME	Name key 1	Parameter	X	'MATNR'
SCHL1_VON	Smaller value key 1	Parameter	X	'0'
SCHL1_BIS	Higher value key 1	Parameter	X	'1'
SCHL2_NAME	Name key 2	Parameter	X	'WERKS'
SCHL2_VON	Smaller value key 2	Parameter	X	'0'
SCHL2_BIS	Higher value key 2	Parameter	X	'1'
SCHL3_NAME	Name key 3	Parameter	X	"
SCHL3_VON	Smaller value key 3	Parameter	X	"
SCHL3_BIS	Higher value key 3	Parameter	X	"
SCHL4_NAME	Name key 4	Parameter	X	"
SCHL4_VON	Smaller value key 4	Parameter	X	"
SCHL4_BIS	Higher value key 4	Parameter	X	"
I_TABELLE	Name of return table	Table		ITAB1
SCHL1_IN	Select option key 1	Table	X	S_MATNR
SCHL2_IN	Select option key 2	Table	X	S_WERKS
SCHL3_IN	Select option key 3	Table	X	
SCHL4_IN	Select option key 4	Table	X	

Table 4: Parameter of conversion tool

Adjustment of the command `SELECT` to the *PBS archive add on*

As the data of the *PBS archive add on* is not contained in the database, you cannot access this data via the command "SELECT". Existing ABAPs, therefore, must be modified via the function key for the access to the archive data.

Basis

The SELECT command used in ABAP possesses one of the three basic characteristics which have to be adjusted if you want to use the function module. These are:

1. Select ... Endselect
2. Select into Table
3. Select Single

The archive accesses are optimized by transferring the key parameters to the function. If the command SELECT uses only these key parameters for the selection, the restriction WHERE may not be necessary for the archive data.

The adjustment of the three select types to the function modules is made according to the following pattern.

Select-Type 1

Select und Endselect:

```
SELECT * FROM table INTO field WHERE condition  
Coding  
ENDSELECT
```

Characteristic

INTO or APPENDING restriction is missing or the addition ,TABLE' is missing in both restrictions.

Modification

Redirect select in iTab, call function, process iTab with loop and endloop and allocate Field = iTab.

```
SELECT * FROM table INTO TABLE iTab WHERE condition
Call Function function module...
Loop at iTab WHERE condition
    Move-Corresponding iTab to field
    Coding
Endloop
```

Select Type 2

Select into Table:

```
SELECT * FROM table into Table iTab WHERE condition
Coding
```

Characteristic

Addition 'TABLE' in the INTO or APPENDING restriction.

Modification

Call function and transfer table iTab, delete data records from iTab which do not correspond to the WHERE restriction.

```
SELECT * FROM Table into Table iTab WHERE condition
Call Function function module ...
Delete iTab WHERE NOT condition
Coding
```

Select Type 3

Select Single:

```
SELECT SINGLE * FROM table WHERE condition
Coding
```

Characteristic

Mark by addition "SINGLE". "TABLE" is not allowed.

Modification

Check if Select Single on residence data was unsuccessful, then call function, process once iTab with Loop and End loop, allocate field = iTab.

```
SELECT SINGLE * FROM Table WHERE condition
IF SY-SUBRC NE 0
  Call Function function module...
  Loop at iTab WHERE condition
    EXIT
  Endloop
  Move Corresponding iTab to field
Endif
Coding
```